REMARKS

Claims 1-4, 8-13 and 20 are pending in the application. Claim 1 is currently amended. Claims 14-19 and 21-34 have been previously withdrawn without prejudice. Claims 5-7 have been previously cancelled.

Claim Rejections – 35 U.S.C. §112 Second Paragraph

Claims 1-4 stand rejected under 35 U.S.C. §112 Second Paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 has been amended to delete the term "derived from" for purpose of clarification, which renders the rejection moot. Withdrawal of the rejection is respectfully requested.

Claim Rejections – 35 U.S.C. §103

Claims 1-4, 10-13, and 20 stand rejected under 35 U.S.C. §103(a) as being obvious over Qiu et al. (Theor. Appl. Genet (1999) 98: 356-64), in view of Malins et al. (U.S. Patent No. 6,214,550).

Applicant respectfully disagrees with the Examiner's position that Claims 1-4, 10-13, and 20 are rendered obvious by Qiu et al. and Malins et al. This is because the combination of references fails to teach or suggest each limitation of the present claims. "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA, 1974). Neither Qiu et al. nor Malins et al. teaches or suggests the claim limitation that the assay spectra obtained from a soybean sample are compared with a predictive model based on spectra data obtained from soybean varieties with known resistance or susceptibility to soybean cyst nematode (SCN) to predict the SCN resistance or susceptibility of the soybean sample based upon the comparison results. A declaration by David Sleper, a co-author of the Qiu et al. article, is being submitted in conjunction with this response pursuant to C.F.R. §1.132 as evidence to traverse the obviousness rejection.

Qiu et al. disclose using NIR methods to measure seed composition in soybean. Qiu et al. also attempt to find RFLP markers associated with both SCN resistance and seed composition, but fail to identify such common markers definitively. The Examiner acknowledges that Qiu et al. is not being relied upon to show the correlation between the NIR spectra and SCN susceptibility, instead, Qiu et al. is being relied upon as a teaching for obtaining NIR spectroscopy scans of soybean samples for use in statistical analysis, and further as a teaching for mean and standard deviations of SCN scores and statistical software. See Page 4 of the instant Office Action. The Examiner further states that Marlins et al. is used to show statistical analysis of the spectral data. Nonetheless, nothing in this combination teaches or suggests the use of IR data to confirm nematode resistance or susceptibility. The Declaration from Dr. Sleper confirms this.

Even assuming Qiu et al. and Marlins et al. do provide the teachings as asserted by the Examiner, at least one claim limitation is missing in the cited references. This missing limitation is the correlation between the NIR spectra and SCN susceptibility. Without first establishing a correlation between the NIR spectra and SCN susceptibility, one would not know how to utilize the spectra data to predict SCN susceptibility. While Qiu et al. teaches using spectra data to calculate protein or oil content, Qiu et al. fall short of establishing a correlation between the NIR spectra and SCN susceptibility.

In the Office Action dated 6/17/05, pages 2-3, the Examiner appeared to reason that because Qiu et al. teaches that "markers located near these QTLs would be used to select for new SCN resistance and higher levels of seed protein and oil concentration," it necessarily teaches the use of spectra data to predict SCN resistance. Applicant respectfully disagrees.

Qiu et al. set out to map some RFLPs in relation to QTLs controlling SCN resistance or higher levels of seed protein and oil concentration. Although some markers, such as B072, are found to be significantly linked to resistance to certain races of SCN and protein or oil concentration, there are other markers, such as B148, which are only linked to SCN resistance but not to protein or oil concentration, or vice versa. See Qiu et al., page 360-1. Indeed, Qiu et al even suggests that the seed protein or oil concentration traits may be controlled by multiple genes (or loci) and that therefore no one single RFLP

marker can sufficiently follow one protein or oil concentration trait, let alone follow the segregation of SCN resistance and protein or oil concentration trait. See Qiu et al. 361, Column 2, lines 3-18. Thus, Qiu et al. at most suggests the need to continue searching for RFLP markers that may be used to follow the segregation of traits such as SCN resistance and protein and oil concentration. Applicant fails to find in Qiu any reference to using the spectral reading of a soybean sample to predict SCN susceptibility or resistance, as presently claimed.

With all due respect, Qiu et al. does not show spectral correlation to confirm nematode resistance as claimed. Malins et al. does not cure this defect because nothing is mentioned Malins et al. that is relevant to the comparison of the spectra with a predictive model for SCN resistance. It is impossible to base a §103 combination or modification of a reference on inherency when the prior art did not perform what is claimed, and what is claimed produces a new effect or result that was not appreciated or understood in the prior art.

Even if we assume, arguendo, that every limitation of the rejected claims is present in the cited art, there is no teaching or suggestion in Qiu et al. or Malins et al. that would motivate one to combine or modify the separate teachings in these two references to arrive at the invention as presently claimed. Therefore, taken as a whole, Claims 1-4, 10-13, and 20 are not rendered obvious by Qiu et al. in view of Malins et al.

Claims 1-4, 8-13, and 20 stand rejected under 35 U.S.C. §103(a) as being obvious over Qiu et al. (Theor. Appl. Genet (1999) 98: 356-64), in view of Borggaard et al. (Anal. Chem. 1992, 64:545-51). Applicant disagrees with Examiner for reasons similar to the ones present in the previous section. Because the limitation of NIR spectra being compared with a predictive model for SCN resistance is missing in Qiu et al., and nothing is mentioned in Borggaard et al. with respect to comparing NIR spectra with a predictive model for SCN resistance, not every limitation of the rejected claims is described or suggested in the cited references. The Examiner has not established a *prima facie* case of obviousness and withdrawal of the rejections is respectfully requested.

For the reasons stated above, Applicant's attorney respectfully solicits a Notice of Allowance. Applicant is submitting this response with the $395 fee for a Request for Continued Examination and $60 fee for petition for extension of time. However, if any additional fees are deemed necessary in connection with this filing, the Commissioner is hereby authorized to charge deposit account No. 12-0600.

Respectfully submitted

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